DOCUMENT RESUME

ED 153 385 EC 110 334

AUTHOR Prieto, Alfonso G.; Zucker, Stanley H.
TITLE The Effect of Modeling Techniques on the Behavior of Severely Emotionally Handicapped Children (Autism).
PUB DATE May 78
NOTE 11p.; Paper presented at the Annual International Convention, The Council for Exceptional Children (56th, Kansas City, Missouri, May 2-5, 1978, Session R4)

EDRS PRICE MF-$0.83 HC-$1.67 Plus Postage.
DESCRIPTORS *Autism; *Behavior Change; Childhood; *Emotionally Disturbed; Exceptional Child Research; *Modeling (Psychological)

ABSTRACT

The purpose of the investigation was to record the behavior of 12 autistic and severely disturbed children (5 to 14 years old) after exposure to a live model exhibiting either aggressive or affectual responses toward a surrogate person. During 3-minute observation periods, Ss' responses toward a Bobo doll were scored as aggressive or affective. The affectual modeling condition effected S behavior to a significant degree, while the aggressive condition did not. (SBH)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED153385

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

The Effect of Modeling Techniques on the Behavior of Severely Emotionally Handicapped Children (Autism)

Alfonso G. Prieto Stanley H. Zucker

Arizona State University

There is considerable evidence to indicate that modeling effects the behavior of both normal and special populations. Research has demonstrated the effectiveness of modeling techniques with normal children (Bandura & Huston, 1961; Bandura, Ross & Ross, 1961; 1963), dog-phobic children (Bandura, Blanchard, & Ritter, 1968), emotionally disturbed children (Walters & Willows, 1968), and adolescent delinquents (Sarason & Ganzer, 1969). More recently, modeling techniques have been used successfully with retarded children (Talkington & Altman, 1973; Talkington, Hall, & Altman, 1973) including severely and profoundly retarded (Zucker, 1976; 1977).

Most of the research on the utility of modeling techniques with severely emotionally handicapped children has been concerned with verbal imitation. Lovaas and his associates (Lovaas, Berberich, Perloff, & Schaeffer, 1966) created a program of speech therapy for schizophrenic children involving differential reinforcement of the child's imitative verbal responses. Analysis of the acquisition of verbal imitation showed that as the training progressed the rate of mastery increased. A similar program (Hingten, Coulter, and Churchill, 1967) was effective in increasing not only the vocalizations, but also the imitative use of the body and objects by two mute autistic children. Both of these studies made use of powerful reinforcers: food, water, and release from physical restraint.

AC 110 334

Other studies involving verbal imitation have examined certain model variables. Eriksen (1974) investigated the comparative effectiveness of film models and live models in establishing imitative vocalizations in four non-language children. One of the children was a six year old autistic child. This child acquired rapid imitative vocalizations in the live model condition, but only partial imitative vocalizations in the film model condition, even though he acquired an adequate attending response in both conditions. Coleman and Stedman (1974) reported success using a peer model for the voice volume training and labeling vocabulary training of a ten year old autistic child. Across alternating trials both the model and the autistic child were rewarded for correct responses. The authors suggested that this modeling technique, at least for volume and label training, may be more effective than the Lovaas-type technique.

These studies emphasize the importance of reinforcement in the development of imitative behavior in autistic children. Lovaas et al. (1966), for example, indicated that, at least for his subjects, reward immediately following imitative behavior was necessary to maintain that behavior. As important as reinforcement may be, it is surprising that there is no research directly concerned with the spontaneous imitation of autistic children. (Spontaneous imitation as described here refers to imitation without explicit reinforcement or verbal instruction.) Echolalic speech is known to be a common characteristic of autistic children, yet their ability to spontaneously imitate is generally depicted as being poor. For example, Marschak

(1967) observed that the three autistic children in her study spontaneously imitated the play activity of a parent less than the retarded and normal children. Hingten, Coulter, and Churchill (1967) reported that pretest scores showed that the autistic children in their study had some nongeneralized imitative ability in the use of body parts, but little or no imitative ability for the use of objects or verbal responding.

Talkington and Altman (1973) report the spontaneous imitation of retarded children (IQ 30-79). The children in the treatment groups were exposed to either aggressive of affectual modeling conditions. The findings indicated that the aggressive modeled groups demonstrated significant imitative, aggressive response patterns, while the affectual modeling appeared to suppress aggressive responses rather than enhance affectual response patterns. Studies by Zucker (1976; 1977) report imitation on modeling tasks even among profoundly retarded children (IQ 8-22). A recent exploratory investigation conducted by Prieto, Zucker, Snead & Cochran (1977) indicated strong evidence to support the contention that both the aggressive and the affectual condition had significant effects on behavior when compared to the control group.

The purpose of the present investigation was to record the behavior of severely behaviorally disordered children after exposure to a live model exhibiting either aggressive or affectual responses toward a surrogate person.

Method

Subjects

Twelve children were selected from the day school population of a private institution for autistic and severely disturbed children. The subjects' chronological ages ranged from 5 to 14 years. The subjects were randomly assigned to one of three conditions: exposure to aggressive model, exposure to affectual model, and no model control group.

Procedure

Each child was brought into a bare room containing a Bobo doll and a chair. The child was instructed to sit down in the chair. As soon as the child sat down, the model began performing the appropriate behavior. In the aggressive modeling condition, the model kicked, threw, slapped and hit the plastic doll. In the affectual modeling condition, the model petted, hugged, kissed, and caressed the plastic doll. After three minutes of the modeling condition, the model told the child to wait in the room and that he would be right back; then the model stepped out of the room. Two observers watched the child through a one-way mirror and recorded each child's responses toward the Bobo doll. The observation period was three minutes long, responses were scored on a time-sampling basis every five seconds, according to whether the aggressive or affective responses were present in the child's behavior. After the three minute observation period had ended, the model entered the room and accompanied the child out to his classroom teacher.

Each child in the control group was exposed to three minutes of informal contact with the model outside of the experimental room,

before being placed inside the room with the plastic doll. These children received the same verbal instruction as the modeling condition children, and the scoring procedure was identical with that used with the other children.

Results

The mean responses by group are reported. In the control group, the mean total response was .25. For the aggressive condition, the mean total response was 7.37, and in the affectual condition, the mean total response was 23.37. The percentage of aggressive and affectual responses in each group were also recorded. In the control condition, only one response was recorded and it was an affectual response. In the aggressive condition, a total of 30 responses were emitted by the subjects, 80% of those responses were aggressive and 20% were affectual. In the affectual condition, a total of 93 responses were recorded. 90.3% of those responses were affectual responses while 9.7% of them were aggressive. In the affectual condition, the mean number of affectual responses was 21 as opposed to 2.38 aggressive responses. In the aggressive condition, the mean number of aggressive responses was 5.88 as opposed to 2.6 affectual responses. In the control condition, there were no aggressive responses recorded and the mean for affectual responses was .25. This data is reported in Figure 1.

Insert Figure 1

Each subject's score was computed be averaging the five second intervals reported by the observers. Inter-observer reliability was 1.00 in the

control condition, .94 in the affectual condition and .97 in the aggressive condition. Overall inter-observer reliability was .98.

This data was further analyzed by use of a oneway analysis of variance. The results of the ANOVA indicate a significant main effect for the modeling procedure ($F=12.54$, 2, 9 df, $p<.003$). Because the overall F ratio was significant, a Newman-Keuls a posteriori procedure was then conducted to determine which of the conditions accounted for the significance. The results of this procedure revealed that there was no significant difference between the control condition and the aggressive condition but there was a significant difference between the affectual condition and both the control and aggressive conditions, thus the affectual condition was responsible for the overall significance of the F ratio.

Discussion

The results of this investigation demonstrate dramatically that a live modeling treatment condition does effect the behavior of severely behaviorally disordered children to a significant degree. It is interesting to note, however, that the affectual condition did significantly effect the responses of the subject while the aggressive condition did not. This particular study does suggest that modeling can be used to illicit affectual imitation responses in contrast to earlier studies which emphasize that imitation is contingent upon the use of reinforcement, and suggest that the ability of severely behaviorally disordered children to engage in spontaneous imitation is extremely limited. These results are also interesting when compared to the results reported by Altman

and Talkington (1973) earlier.

We could speculate on why the affectual model did produce imitation and the aggressive did not. Such speculation could include fear of reprisal, inhibition to aggression due to earlier limitations being imposed, or the use of extinction procedures to control aggression in the past. Any one of these or a number of other variables could be speculated about, however I do not believe this to be the forum for such speculation.

The implications of this study for learning and teaching are somewhat limited, but we could suggest that live modeling appears to have sufficient effect on behavior so as to warrant further investigation aimed at exploring the use of modeling as a teaching tool as well as delineating and applying the parameters related to modeling with the population of severely behaviorally disordered children.

References

Bandura, A., Blanchard, E. D., & Ritter, B. J. The relative efficacy of desensitization and modeling therapeutic approaches for inducing behavioral, affective and attitudinal changes. Unpublished manuscript, Stanford University, Palo Alto, Ca., 1968.

Bandura, A., & Huston, A. C. Identification as a process of incidental learning. Journal of Abnormal and Social Psychology, 1961, 63, 311-318.

Bandura, A., Ross, D., & Ross, S. A. Transmission of aggression through imitation of aggressive models. Journal of Abnormal and Social Psychology, 1961, 63, 575-582.

Bandura, A., Ross, D., & Ross, S. A. Imitation of film-mediated aggressive models. Journal of Abnormal and Social Psychology, 1963, 66, 3-11.

Brawley, E., Harris, F., Allen, K. E., Fleming, R. & Peterson, R. Behavior modification of an autistic child. Clinical Studies in Behavior Therapy with Children, Adolescents, and their Families, (Edited by Stedman, Patton and Walton) Thomas: Springfield, Ill. 1973.

Coleman, S. & Stedman, J. Use of a peer model in language training of an echolalic child. Journal of Behavior Therapy and Experimental Psychiatry, 1974, 5, 275-279.

Eriksen, R. The comparative effectiveness of live models and film models in establishing imitative vocalizations in nonlanguage children. Dissertation Abstracts International, 1974 - 5187-8 B.

Harbin, A., Sklar, G., & Trautman, E. A study of imitative learning in emotionally disturbed and normal children. Nursing Research, 1969, 18 (2), 160-164.

Hartung, J. A review of procedures to increase verbal imitation skills and functional speech in autistic children. Journal of Speech and Hearing Disorders, 1970 (Aug.), Vol. 35 (3), 203-217.

Hingtgen, J., Coulter, S., & Churchill, D. Intensive reinforcement of imitative behavior in mute autistic children. Archives of General Psychiatry, 1967, 17, 36-43.

Lovaas, O. I., Berberich, J., Perloff, B., & Schaeffer, B. Acquisition of imitative speech by schizophrenic children. Science, 1966, 151, 705-707.

References Continued

Marschak, M. Imitation and participation in normal and disturbed young boys in interaction with their parents. Journal of Clinical Psychology, 1967, 23, 421-427.

Metz, J. Conditioned generalized imitation in autistic children. Journal of Experimental Child Psychology, 1965, 4 (2), 389-399.

Prieto, A., Zucker, S., Snead, L. and Cochran, C. "Modeling Effects with Severely Behaviorally Disordered Children," in Rutherford, R. and Prieto, A. (Eds.) Severe Behavior Disorders of Children and Youth: CCBD Monograph, Lafayette, PA: Council for Children with Behavior Disorders, In Press.

Risel, T. R., & Wolf, M. M. Establishing functional speech in echolalic children. Behavior Research and Therapy, 1967, 5, 73-88.

Ritvo, S. & Provence, S. Form perception and imitation in some autistic children. Psychoanalytic Study of the Child, 1953, 8, 155-161.

Sarason, I. G. & Ganzer, V. J. Developing appropriate social behaviors of juvenile delinquents. In J. Krumboltz and C. Thoresen (Eds.) Behavior counseling: Cases and techniques. New York: Holt, Rinehart & Winston, 1969.

Sulzbacher, S. & Costello, J. A behavioral strategy for language training of a child with autistic behaviors. Journal of Speech and Hearing Disorders, 1970, 35, 256-276.

Talkington, L. & Altman, R. Effects of film-mediated aggressive and affectual models on behavior. American Journal of Mental Deficiency, 1973, 77, 420-425.

Talkington, L., Hall, S. & Altman, R. Use of a peer modeling procedure with severely retarded subjects on a basic communication response skill. The Training School Bulletin, 1973, 69, 145-149.

Walters, R. & Willows, D. Imitative behavior of disturbed and non-disturbed children following exposure to aggressive and nonaggressive models. Child Development, 1968, 39, 79-89.

Williams, D. L. The development of consequences of models response as discrimative stimuli for generalized imitation. Dissertations Abstract International, 1971 (Feb.),Vol. 31 (8-B) 5010-5011.

Zucker, S. H. Modeling induced response changes in lower level retardates. Paper presented at the Annual Conference of the American Association of Psychiatric Services for Children, San Francisco, California, November, 1976.

Zucker, S. H. Acquisition of imitative responses in profoundly mentally retarded. Paper presented at the Annual Meeting of the Council for Exceptional Children, Atlanta, Georgia, April, 1977.

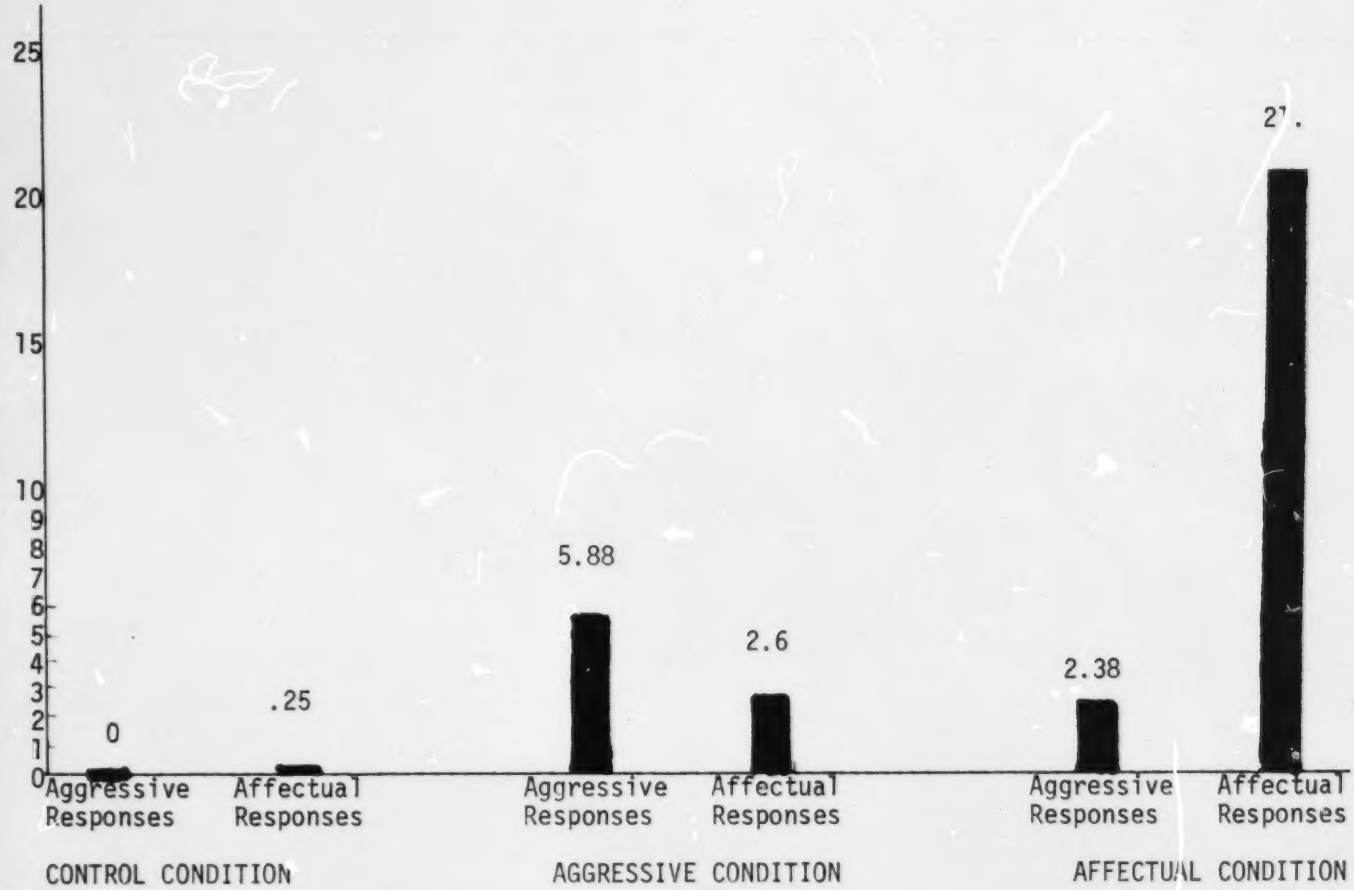

Figure 1. Mean Responses by Treatment Condition